

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

**OPTIS WIRELESS TECHNOLOGY, LLC,
OPTIS CELLULAR TECHNOLOGY, LLC,
AND PANOPTIS PATENT MANAGEMENT,
LLC,**

Plaintiffs,

v.

**HUAWEI TECHNOLOGIES CO. LTD,
HUAWEI DEVICE USA, INC., AND HUAWEI
DEVICE CO. LTD**

Defendants.

Civil Action No. 2:17-cv-123

JURY TRIAL REQUESTED

PLAINTIFFS' THIRD AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Optis Wireless Technology, LLC, Optis Cellular Technology, LLC, and PanOptis Patent Management, LLC (collectively, "PanOptis") file this Third Amended Complaint for patent infringement under 35 U.S.C. § 271 against Huawei Technologies Co. Ltd., Huawei Device USA, Inc., and Huawei Device Co. Ltd. (collectively, "Huawei"), and allege as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement. Huawei has infringed and continues to infringe, contribute to the infringement of, and/or actively induce others to infringe U.S. Patent Nos. 7,769,238 ("the '238 patent"), 6,604,216 ("the '216 patent"), 7,940,851 ("the '851 patent"), 8,385,284 ("the '284 patent"), 8,208,569 ("the '569 patent"), 8,102,833 ("the '833 patent"), and 8,437,293 ("the '293 patent") (collectively, "the Asserted Patents" or "the Patents-in-Suit").

PARTIES

2. Plaintiff Optis Wireless Technology, LLC (“Optis Wireless”) is a limited liability company organized and existing under the laws of the State of Delaware, and maintains its principal place of business at 7160 Dallas Parkway, Suite 250, Plano, TX 75024.

3. Plaintiff Optis Cellular Technology, LLC (“Optis Cellular”) is a limited liability company organized and existing under the laws of the State of Delaware, and maintains its principal place of business at 7160 Dallas Parkway, Suite 250, Plano, TX 75024.

4. Plaintiff PanOptis Patent Management, LLC (“PPM”) is a limited liability company organized and existing under the laws of the State of Delaware, and maintains its principal place of business at 7160 Dallas Parkway, Suite 250, Plano, TX 75024.

5. Upon information and belief, Huawei Technologies Co. Ltd. (“Huawei Technologies”) is a Chinese corporation with its principal place of business at Bantian, Longgang District, Shenzhen, People’s Republic of China.

6. Upon information and belief, Huawei Device USA, Inc. (“Huawei Device”) is a corporation organized under the laws of Texas, having its principal place of business at 5700 Tennyson Parkway, Suite 500, Plano, Texas 75024.

7. Upon information and belief, Huawei Device Co. Ltd. (“Huawei Device China”) is a Chinese corporation with its principal place of business at Bantian, Longgang District, Shenzhen, People’s Republic of China.

JURISDICTION AND VENUE

8. This Court has exclusive subject matter jurisdiction over this case under 28 U.S.C. §§ 1331 and 1338.

9. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391 and 1400(b) because Huawei has committed acts of infringement in this judicial district and is subject to personal

jurisdiction in this judicial district.

10. This Court has personal jurisdiction over Huawei. Huawei Device is organized under the laws of Texas, and maintains its principal place of business in this District. Huawei has continuous and systematic business contacts with the State of Texas. Huawei, directly or through subsidiaries or intermediaries (including distributors, retailers, and others), conducts its business extensively throughout Texas, by shipping, distributing, offering for sale, selling, and advertising (including the provision of interactive web pages) its products and services (including its infringing products and services) in the State of Texas and the Eastern District of Texas. Huawei, directly and through subsidiaries or intermediaries (including distributors, retailers, and others), has purposefully and voluntarily placed its infringing products and services into this District and into the stream of commerce with the intention and expectation that they will be purchased and used by consumers in this District. These infringing products and services have been and continue to be purchased and used by consumers in this District. Huawei has committed acts of patent infringement within the State of Texas and, more particularly, within this District. Jurisdiction over Huawei in the matter is also proper inasmuch as Huawei has voluntarily submitted itself to the jurisdiction of the courts by commencing litigations within the State of Texas (including in this District), by registering with the Texas Secretary of State's Office to do business in the State of Texas, and by appointing a registered agent.

THE PANOPTIS PATENTS

11. On August 3, 2010, the '238 patent was duly and legally issued for an invention titled, "Picture Coding Method and Picture Decoding Method." PanOptis owns all rights to the '238 patent necessary to bring this action. A true and correct copy of the '238 patent is attached hereto as Exhibit 1.

12. On August 5, 2003, the '216 patent was duly and legally issued for an invention

titled, “Telecommunications System and Method for Supporting an Incremental Redundancy Error Handling Scheme Using Available Gross Rate Channels.” PanOptis owns all rights to the ’216 patent necessary to bring this action. A true and correct copy of the ’216 patent is attached hereto as Exhibit 2.

13. On May 10, 2011, the ’851 patent was duly and legally issued for an invention titled, “Radio Communication Apparatus and Radio Communication Method.” PanOptis owns all rights to the ’851 patent necessary to bring this action. A true and correct copy of the ’851 patent is attached hereto as Exhibit 3.

14. On February 26, 2013, the ’284 patent was duly and legally issued for an invention titled, “Control Channel Signaling Using a Common Signaling Field for Transport Format and Redundancy Version.” PanOptis owns all rights to the ’284 patent necessary to bring this action. A true and correct copy of the ’284 patent is attached hereto as Exhibit 4.

15. On June 26, 2012, the ’569 patent was duly and legally issued for an invention titled, “Method and Apparatus for Multicarrier Communication.” PanOptis owns all rights to the ’569 patent necessary to bring this action. A true and correct copy of the ’569 patent is attached hereto as Exhibit 5.

16. On January 24, 2012, the ’833 patent was duly and legally issued for an invention titled, “Method for Transmitting Uplink Signals.” PanOptis owns all rights to the ’833 patent necessary to bring this action. A true and correct copy of the ’833 patent is attached hereto as Exhibit 6.

17. On May 7, 2013, the ’293 patent was duly and legally issued for an invention titled, “Methods and Systems for Scheduling Resources in a Telecommunication System.” PanOptis owns all rights to the ’293 patent necessary to bring this action. A true and correct copy

of the '293 patent is attached hereto as Exhibit 7.

PLAINTIFFS' LTE STANDARDS ESSENTIAL PATENTS

18. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

19. The European Telecommunications Standards Institute ("ETSI") is a standard setting organization ("SSO") that produces globally-accepted standards for the telecommunication industry. ETSI is an organizational partner of the Third Generation Partnership Project ("3GPP"), which maintains and develops globally applicable technical specifications for mobile systems, including the specifications for implementation and use of wireless communications for high-speed data referred to as the Long Term Evolution ("LTE") Standard.

20. Implementation and use of the LTE standard, including, but not limited to, use of wireless communications for high-speed data compliant with the LTE specifications as detailed in the 3GPP specification series TS 36.101-36.978, has increased in recent years and continues to increase at a rapid pace.

21. ETSI has developed and promulgated an IPR Policy (found at Annex 6 to the ETSI Rules of Procedure, published November 19, 2014). This policy is intended to strike a balance between the needs of standardization for public use in the field of telecommunications on the one hand, and the rights of IPR owners on the other hand. ETSI requires its members to disclose patents that "are or become, and remain ESSENTIAL to practice" its standards or technical specifications. Clause 15.6 of the ETSI IPR Policy defines the term "ESSENTIAL" to mean that "it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or

METHODS which comply with a STANDARD without infringing that IPR.”

22. Optis Wireless is the assignee of numerous patents, originally assigned to either Telefonaktiebolaget LM Ericsson (“Ericsson”) or Panasonic Corporation (“Panasonic”), that are, and remain, essential (as that term is defined by ETSI) to practicing the LTE Standard.

23. Optis Cellular is the assignee of numerous patents, originally assigned to either Ericsson or LG Electronics Inc. (“LG”), that are, and remain, essential (as that term is defined by ETSI) to practicing the LTE Standard.

24. Ericsson, the original assignee of the ’216 patent, declared that patent as essential to practicing the LTE Standard in 2009.

25. Panasonic, the original assignee of the ’851, ’284, and ’569 patents, declared those patents as essential to practicing the LTE Standard. Optis Wireless, upon acquisition of those patents from Panasonic, re-declared those patents to ETSI as essential to practicing the LTE Standard.

26. LG, the original assignee of the ’833 patent, declared that patent as essential to practicing the LTE Standard in 2009. Optis Cellular, upon acquisition of that patent, re-declared it to ETSI as essential to practicing the LTE Standard.

27. Ericsson, the original assignee of the ’293 patent, declared that patent as essential to practicing the LTE Standard in 2009. Optis Cellular, upon acquisition of that patent, re-declared it to ETSI as essential to practicing the LTE Standard.

28. PanOptis, in conformance with ETSI’s IPR Policy, has informed Huawei that PanOptis is prepared to grant Huawei an irrevocable license to its LTE essential patents, including the ’216, ’851, ’284, ’569, ’833, and ’293 patents, on terms that are Fair, Reasonable, and Non-Discriminatory (“FRAND”).

29. Huawei requires a license to PanOptis's LTE essential patents because Huawei makes, has made, sells, leases, disposes of, repairs, uses, and operates products (including Huawei's mobile communication devices) that are configured to, and do, operate in compliance with the LTE Standard, and thus infringe PanOptis's LTE essential patents.

30. In April 2014, PanOptis sent Huawei correspondence that initiated PanOptis's good faith efforts to license its LTE essential patents to Huawei on FRAND terms.

31. On July 18, 2014, PanOptis sent correspondence to Huawei that contained lists of PanOptis's patents, including the Patents-in-Suit.

32. PanOptis representatives, at their own expense, traveled and met face-to-face with Huawei representatives at least ten times in Hong Kong and Shenzhen, China, on June 5, 2014; August 28, 2014; November 4, 2014; January 27, 2015; April 8, 2015; June 18, 2015; August 20, 2015; November 13, 2015; February 1, 2016; and May 25, 2016. During those meetings, PanOptis presented, in good faith, material concerning its LTE essential patents, along with FRAND terms for its LTE essential patents, including a proposed term sheet for a global license.

33. In addition to meeting with Huawei numerous times, PanOptis has initiated and exchanged written correspondence with Huawei and has contacted Huawei by phone on numerous occasions. PanOptis also provided Huawei with a number of exemplary claim charts showing infringement by Huawei's products that are configured to operate in compliance with the LTE Standard, including, but not limited to, claim charts for the '569 and '833 patents.¹

34. On January 27, 2017, PanOptis sent another letter to Huawei, reiterating that it was prepared to offer, and has offered, to license its standard essential patents on terms that are FRAND.

¹ PanOptis also provided Huawei with a claim chart showing infringement by Huawei's products of the '238 implementation patent.

35. To date, Huawei has not reciprocated PanOptis's good faith efforts. Huawei instead has resisted taking a license to PanOptis's valuable intellectual property.

36. Huawei has been operating and continues to operate without a license to PanOptis's LTE essential patents. Given Huawei's unwillingness to engage in meaningful licensing discussions, to license PanOptis's LTE essential patents, or to cease infringing PanOptis's patents, PanOptis has filed this lawsuit for the purpose of protecting its patent rights in the United States.

GENERAL ALLEGATIONS

37. The infringing Huawei devices include, but are not limited to, those devices that are compatible with the 3GPP Long Term Evolution ("LTE") Standard and/or that can decode picture and audio data. This list includes, but is not limited to, the Huawei Nexus 6P, Huawei Mate 9, Huawei Mate 8, Huawei P8 Lite, Huawei SnapTo, Huawei Ascend Mate 2, Ascend Mate 7, Huawei Ascend P7, Huawei Mate S, Huawei P8, Huawei P9, Huawei Ascend G7, Huawei GX8, Huawei G7 Plus, Honor 5X, Honor 6, Honor 7, Honor 8, Huawei Union, Huawei Vitria, Huawei Vision 3 LTE, Huawei MediaPad T1 8.0, Huawei MediaPad T1 8.0 Pro, and Huawei MediaPad M3 (collectively, "the Huawei Accused Products").

38. Huawei has and continues to directly and indirectly infringe each of the Patents-in-Suit by engaging in acts constituting infringement under 35 U.S.C. § 271(a), (b), and/or (c), including, but not necessarily limited to, one or more of making, using, selling, and offering to sell, in this District and elsewhere in the United States, and importing into the United States, the Huawei Accused Products.

39. Huawei and/or its authorized retailers operate stores throughout the United States, including stores in this District, such as the Best Buy stores in Longview and Tyler, Texas. Upon information and belief, Huawei and/or its authorized retailers sell and offer to sell the Huawei

Accused Products, including those that are configured to connect and operate on an LTE network and those that can decode picture and audio data. Furthermore, upon information and belief, Huawei uses the Huawei Accused Products within the United States, including in support of its promotions and advertisements that highlight the LTE network and picture and audio decoding capabilities of the Huawei Accused Products. *See, e.g.,* <http://www.youtube.com/user/huaweideviceusa/videos>; *see also* http://www.youtube.com/watch?v=eoKRN-2Tb_U (showing the Huawei MediaPad T1 playing a streaming video).

40. Huawei takes specific steps to actively induce others, including its customers, to infringe the Patents-in-Suit with the Huawei Accused Products. Huawei actively induces the direct infringement of one or more claims of the Patents-in-Suit by others by promoting, instructing, offering, and encouraging others to use the Huawei Accused Products in an infringing manner. As an example and without limitation, Huawei actively promotes the use of its products' LTE functionality, including for example and without limitation, by way of authorized resellers, customer service and sales representatives, and/or its internet sales websites. Such active promotion includes advertising that the Huawei Accused Products possess full 4G LTE network capabilities and can decode picture and audio data. *See, e.g.,* <http://www.gethuawei.com/huawei-snapto>; http://www.youtube.com/watch?v=eoKRN-2Tb_U (showing the Huawei MediaPad T1 playing a streaming video). Given that Huawei was given notice of the Patents-in-Suit on July 18, 2014, Huawei knows or should know that such sales and promotions actively induce others to directly infringe one or more claims of the Patents-in-Suit, including, for example, by prompting them to use the Huawei Accused Products in an infringing manner. Huawei has performed and continues to perform these affirmative acts with knowledge

of the Patents-in-Suit and with the intent, or willful blindness, that the induced acts directly infringe the patents.

41. As another example, on information and belief, Huawei provides and/or authorizes the providing of instruction manuals, product manuals, specifications, and other materials for customers and other users of the Huawei Accused Products that demonstrate how to make use of the Huawei Accused Products in an infringing manner. For instance, Huawei's instruction materials demonstrate to its customers how to connect to and operate the Huawei Accused Products on LTE networks. And, on information and belief, Huawei knows or should know that such instruction actively induces others to directly infringe one or more claims of the Patents-in-Suit.

42. Additionally, Huawei and/or its authorized retailers operate stores throughout the United States, including stores in this District that, upon information and belief, sell, promote, and instruct the use of the Huawei Accused Products by, for example, selling and/or offering for sale the Huawei Accused Products configured to connect to and operate on LTE networks. For example, Huawei and/or its authorized resellers offer the Huawei Accused Products for sale in the United States. *See, e.g.,* <http://www.bestbuy.com/site/huawei-honor-8-4g-lte-with-32gb-memory-cell-phone-unlocked-sapphire-blue/5514802.p?id=bb4796300&skuid=5514802> (showing Huawei Honor 8 4G LTE phones available at Best Buy's Longview, Texas location as of February 9, 2017 at 11:00 a.m.).

43. Furthermore, Huawei makes, uses, sells, offers for sale, and/or imports into the United States products that contribute to the infringement of one or more claims of the Patents-in-Suit when used by customers and others for their benefit. For example, Huawei and/or its authorized retailers sell Huawei Accused Products specifically to make use of the devices' LTE

and/or picture and audio decoding capabilities. Additionally, the Huawei Accused Products are specifically configured by Huawei and/or its authorized retailers to facilitate the use of the devices' LTE and/or picture and audio decoding capabilities. Further, on information and belief, the Huawei Accused Products and components, once configured, have no substantial uses other than to operate in an infringing manner (*e.g.*, to practice the LTE standard). On information and belief, Huawei knows that the Huawei Accused Products and/or components included therein are specially made or specially adapted for infringement of the Patents-in-Suit, and are not staple articles or commodities of commerce suitable for substantial non-infringing use.

44. Huawei's acts of infringement have caused damage to PanOptis. PanOptis is entitled to recover from Huawei the past damages sustained by PanOptis as a result of Huawei's wrongful acts in an amount subject to proof at trial. PanOptis is also entitled to recover from Huawei a compulsory future royalty payable on each infringing product sold by Huawei following trial or that is not captured in the damages awarded to PanOptis.

HUAWEI'S INFRINGEMENT

45. In the interest of providing detailed averments of infringement, PanOptis has identified below at least one exemplary claim per patent to demonstrate infringement by one exemplary product. However, the selection of claims and products should not be considered limiting, and additional infringing Huawei products and infringed claims of the PanOptis Patents-in-Suit will be disclosed in compliance with the Court's rules related to infringement contentions.

A. Huawei Makes, Imports, Uses, Sells, and/or Offers for Sale Products and Services that Infringe the '238 Patent.

46. Huawei's products at issue include at least the Huawei Nexus 6P, Huawei Mate 9, Huawei Mate 8, Huawei P8 Lite, Huawei SnapTo, Huawei Ascend Mate 2, Ascend Mate 7,

Huawei Ascend P7, Huawei Mate S, Huawei P8, Huawei P9, Huawei Ascend G7, Huawei GX8, Huawei G7 Plus, Honor 5X, Honor 6, Honor 7, Honor 8, Huawei Union, Huawei Vitria, Huawei Vision 3 LTE, Huawei MediaPad T1 8.0, Huawei MediaPad T1 8.0 Pro, and Huawei MediaPad M3 (collectively, “the ’238 Accused Products”).

47. The ’238 Accused Products infringe the ’238 patent. For example, the Nexus 6P infringes claim 1 of the ’238 patent.

48. The ’238 Accused Products comprise a receiving apparatus which receives multiplexed data which is obtained by multiplexing coded audio data and coded picture data. For example, the ’238 Accused Products are capable of receiving media streams or files, *e.g.*, ISO/IEC 14496-15 AVC file format, IS/IEC 14496-12 ISO Base Media File Format, MPEG-4 file format, and/or MPEG-4 streams containing audio and video.

49. The ’238 Accused Products comprise a demultiplexing unit configured to separate the multiplexed data into the coded audio data and the coded picture data. The ’238 Accused Products, by virtue of their ability to decode video and audio from an MPEG-4 stream satisfy this limitation.

50. The ’238 Accused Products comprise an audio processing unit configured to decode the separated coded audio data. For example, the Nexus 6P is capable of decoding coded audio, such as MP3 and AAC. *See, e.g.,* <http://consumer.huawei.com/en/mobile-phones/nexus6p/specifications.htm>.

51. The ’238 Accused Products comprise a picture decoding unit configured to decode the separated coded picture data, wherein said picture decoding unit includes a block decoding unit configured to decode coded block data included in the coded picture data, the coded block data being obtained by dividing a picture signal into plural blocks, generating a

residual block image from a block image of the respective blocks and a predictive block image obtained by intra-picture prediction or inter-picture prediction, and coding, on a block basis, coefficients obtained by performing orthogonal transformation and quantization on the residual block image. *See, e.g.*, ITU-T Rec. H.264. Further evidence that the '238 Accused Products satisfy this claim element is outlined below.

52. The '238 Accused Products comprise a coefficient number decoding unit configured to decode the coded block data to obtain the number of non-zero coefficients which are coefficients included in a current block to be decoded and having a value other than "0." For example, the '238 Accused Products comprise an H.264/AVC decoder capable of decoding Baseline, Main or High Profile bitstreams according to ITU-T Rec. H.264 section A.2. This functionality is described in the H.264 Standard, including, but not limited to, § 9.2.1.

53. The '238 Accused Products comprise a unit configured to obtain coefficients corresponding to a residual block image of the current block by decoding the coded block data. For example, the '238 Accused Products comprise an H.264/AVC decoder capable of decoding Baseline, Main or High Profile bitstreams. This functionality is described in the H.264 Standard, including, but not limited to, § 9.2, describing a process that decodes a block of data and produces the transform coefficient levels of a residual block.

54. The '238 Accused Products comprise a unit configured to obtain the residual block image of the current block by performing inverse quantization and inverse orthogonal transformation on the coefficients corresponding to the residual block image of the current block. For example, as explained above, the '238 Accused Products comprise an H.264/AVC decoder. This functionality is described in the H.264 Standard, including, but not limited to, § 8.5.11, which describes taking an input block of coefficients corresponding to a block of coefficients

(array c) performing an inverse quantization and inverse orthogonal transformation, and producing a residual block array (array r). *See, e.g.*, H.264 Standard at § 8.5.11.

55. The '238 Accused Products comprise a reproducing unit configured to reproduce a block image of the current block, from the obtained residual block image and a predictive block image obtained by intra-picture prediction or inter-picture prediction. For example, as explained above, the '238 Accused Products comprise an H.264/AVC decoder. This functionality is described in the H.264 Standard, including, but not limited to, § 8.5.1, which describes the reconstruction of decoded block u from predicted block predL and residual block r. *See, e.g.*, H.264 Standard at § 8.5.1.

56. The '238 Accused Products comprise a coefficient number decoding unit, as described above, which includes a determining unit configured to determine a predictive value for the number of non-zero coefficients included in the current block based on the number of non-zero coefficients included in a decoded block located on a periphery of the current block. This functionality is described in the H.264 Standard, including, but not limited to, § 9.2.1, which describes the determining of predictive value nC, which is derived based on nA (number of non-zero coefficients in a left-hand adjacent block) and nB (number of non-zero coefficients in an upper adjacent block). *See, e.g.*, H.264 Standard at § 9.2.1.

57. The '238 Accused Products comprise a coefficient number decoding unit, as described above, which includes a selecting unit configured to select a variable length code table based on the determined predictive value. The '238 Accused Products comprise an H.264/AVC decoder which practices this functionality. The functionality is described in the H.264 Standard, including, but not limited to, Table 9-5, in which the selection of a particular column (*i.e.*, a particular variable length code table) depends on the predictive value nC. *See, e.g.*, H.264

Standard at § 9.2.1.

58. The '238 Accused Products comprise a coefficient number decoding unit, as described above, which includes a variable length decoding unit configured to perform variable length decoding on a coded stream which is generated by coding the number of the non-zero coefficients included in the current block, by using the selected variable length code table. The '238 Accused Products comprise an H.264/AVC decoder which practices this functionality. This functionality is described in the H.264 Standard, including, but not limited to, § 9.2.1, which describes the variable length decoding of TotalCoeff, the number of non-zero coefficient in a block.

59. Thus, as described above, the '238 Accused Products, including the Nexus 6P, infringe one or more claims of the '238 patent, including claim 1.

60. The '238 Accused Products are pre-configured and sold by Huawei to infringe the '238 patent. Huawei provides instruction manuals that instruct the users of the '238 Accused Products to use the '238 Accused Products in a manner that infringes the '238 patent.

B. Huawei Makes, Imports, Uses, Sells, and/or Offers for Sale Products and Services that Infringe the '216 Patent.

61. On information and belief, Huawei makes, uses, sells, and offers to sell, in the United States, and imports into the United States, LTE compliant devices, such as mobiles and tablets, including, but not limited to, the Huawei Nexus 6P, Huawei Mate 9, Huawei Mate 8, Huawei P8 Lite, Huawei SnapTo, Huawei Ascend Mate 2, Huawei Ascend Mate 7, Huawei Ascend P7, Huawei Mate S, Huawei P8, Huawei P9, Huawei Ascend G7, Huawei GX8, Huawei G7 Plus, Honor 5X, Honor 6, Honor 7, Honor 8, Huawei Union, Huawei Vitria, Huawei Vision 3 LTE, Huawei MediaPad T1 8.0 Pro, and Huawei MediaPad M3 (hereinafter, "LTE Accused Products").

62. The LTE Accused Products infringe one or more claims of the '216 patent.

63. The '216 patent is essential to the LTE Standard. Thus, for example and as shown below, the LTE Accused Products infringe claim 1 of the '216 patent by virtue of their compatibility with and practice of the LTE Standard, as demonstrated by the 3GPP LTE Standard Specifications.

64. The 3GPP LTE Specifications cover transmitters for transmitting a digital data block to a receiver. For example, the LTE Specifications cover the use of mobile stations in LTE connectivity and communication. *See, e.g.*, 3GPP TS 36.201.

65. The 3GPP LTE Specifications require that LTE compliant devices include a coding circuit for coding the digital data block and generating a mother code word. *See, e.g.*, 3GPP TS 36.212, 3GPP TS 36.213.

66. The 3GPP LTE Specifications require that LTE compliant devices include a reordering circuit for reordering the mother code word and generating a reordered mother code word, wherein the reordered mother code word is generated based on an ordering vector, the ordering vector defining an order in which bits forming the reordered mother code word are to be modulated and forwarded to a receiver. *See, e.g.*, 3GPP TS 36.212.

67. The 3GPP LTE Specifications require that LTE compliant devices include a modulating circuit for modulating at least one subsequence and for forwarding, to the receiver, the at least one modulated subsequence, each of the at least one modulated subsequence having a desired number of bits taken from the reordered mother code word to fill the available bandwidth of at least one available gross rate channel. *See, e.g.*, 3GPP TS 36.211, 3GPP TS 36.212, 3GPP TS 36.213.

68. Thus, as described above, the LTE Accused Products infringe one or more claims

of the '216 patent, including claim 1.

69. The LTE Accused Products are pre-configured and sold by Huawei to infringe the '216 patent. Huawei advertises the ability of the LTE Accused Products to infringe the '216 patent, at least by advertising that the LTE Accused Products are compatible with the LTE Standard. Huawei provides instruction manuals that instruct the users of the LTE Accused Products to use the LTE Accused Products in a manner that infringes the '216 patent.

C. Huawei Makes, Imports, Uses, Sells, and/or Offers for Sale Products and Services that Infringe the '851 Patent.

70. The LTE Accused Products infringe one or more claims of the '851 patent.

71. The '851 patent is essential to the LTE Standard. Thus, for example and as shown below, the LTE Accused Products infringe claim 1 of the '851 patent by virtue of their compatibility with and practice of the LTE Standard, as demonstrated by the 3GPP LTE Standard Specifications.

72. The 3GPP LTE Specifications cover radio communication apparatuses. For example, the LTE Specifications cover the use of mobile stations in LTE connectivity and communication. *See, e.g.*, 3GPP TS 36.201.

73. The 3GPP LTE Specifications require that LTE compliant devices include a receiving unit configured to receive first data and second data, which are transmitted from a plurality of antennas for spatial-multiplexing using a plurality of blocks, into which a plurality of consecutive subcarriers in a frequency domain are divided. *See, e.g.*, 3GPP TS 36.211, 3GPP TS 36.213.

74. The 3GPP LTE Specifications require that LTE compliant devices include a calculating unit configured to calculate a first absolute channel quality indicator (CQI) value per each of the blocks for the first data and a second absolute CQI value per each of the blocks for

the second data, and calculate a relative CQI value of the second absolute CQI value with respect to the first absolute CQI value, per each of the blocks, from the first absolute CQI value and the second absolute CQI value in the same block. *See, e.g.*, 3GPP TS 36.211, 3GPP TS 36.213.

75. The 3GPP LTE Specifications require that LTE compliant devices include a transmitting unit configured to transmit the first absolute CQI value and the relative CQI value of the second absolute CQI value in the same block. *See, e.g.*, 3GPP TS 36.211, 3GPP TS 36.213.

76. The 3GPP LTE Specifications require that LTE compliant devices include a transmitting unit configured to transmit the first absolute CQI value and the relative CQI value of the second absolute CQI value in the same block; wherein the relative CQI value of the second absolute CQI value in the first block of the plurality of blocks for the second data is calculated with respect to the first absolute CQI value in the first block of the plurality of blocks for the first data, and the relative CQI value of the second absolute CQI value in the second block of the plurality of blocks for the second data is calculated with respect to the first absolute CQI value in the second block of the plurality of blocks for the first data. *See, e.g.*, 3GPP TS 36.211, 3GPP TS 36.213.

77. Thus, as described above, the LTE Accused Products infringe one or more claims of the '851 patent, including claim 1.

78. The LTE Accused Products are pre-configured and sold by Huawei to infringe the '851 patent. Huawei advertises the ability of the LTE Accused Products to infringe the '851 patent, at least by advertising that the LTE Accused Products are compatible with the LTE Standard. Huawei provides instruction manuals that instruct the users of the LTE Accused Products to use the LTE Accused Products in a manner that infringes the '851 patent.

D. Huawei Makes, Imports, Uses, Sells, and/or Offers for Sale Products and Services that Infringe the '284 Patent.

79. The LTE Accused Products infringe one or more claims of the '284 patent.

80. The '284 patent is essential to the LTE Standard. Thus, for example and as shown below, the LTE Accused Products infringe claim 1 of the '284 patent by virtue of their compatibility with and practice of the LTE Standard, as demonstrated by the 3GPP LTE Standard Specifications.

81. The 3GPP LTE Specifications cover radio communication apparatuses. For example, the LTE Specifications cover the use of mobile stations in LTE connectivity and communication. *See, e.g.*, 3GPP TS 36.201.

82. The 3GPP LTE Specifications require that LTE compliant devices include a receiver unit for receiving a sub-frame of physical radio resources comprising a control channel signal destined to the mobile terminal. *See, e.g.*, 3GPP TS 36.213.

83. The 3GPP LTE Specifications require that LTE compliant devices include a processing unit for determining based on the received control channel signal a transport format of and a redundancy version for an initial transmission or a retransmission of a protocol data unit conveying user data. *See, e.g.*, 3GPP TS 36.213; 3GPP TS 36.212.

84. The 3GPP LTE Specifications require that LTE compliant devices include a transmitter unit for transmitting the protocol data unit on at least one physical radio resource using the transport format and the redundancy version of the protocol data unit indicated in the received control channel signal. *See, e.g.*, 3GPP TS 36.213; 3GPP TS 36.212.

85. The 3GPP LTE Specifications require that LTE compliant devices include a transmitter unit for transmitting the protocol data unit on at least one physical radio resource using the transport format and the redundancy version of the protocol data unit indicated in the

received control channel signal; wherein the control channel signal received within said sub-frame comprises a control information field, in which the transport format and the redundancy version of the protocol data unit are jointly encoded. *See, e.g.,* 3GPP TS 36.213; 3GPP TS 36.212.

86. The 3GPP LTE Specifications require that LTE compliant devices include a processing unit further configured for the determination of the control information field, which consists of a number of bits representing a range of values that can be represented in the control information field. *See, e.g.,* 3GPP TS 36.213.

87. The 3GPP LTE Specifications require that LTE compliant devices include a processing unit further configured for the determination of the control information field, which consists of a number of bits representing a range of values that can be represented in the control information field, wherein a first subset of the values is reserved for indicating the transport format of the protocol data unit and a second subset of the values, different from the first subset of the values, is reserved for indicating the redundancy version for transmitting the user data. *See, e.g.,* 3GPP TS 36.213.

88. The 3GPP LTE Specifications require that LTE compliant devices include a processing unit further configured for the determination of the control information field, which consists of a number of bits representing a range of values that can be represented in the control information field, wherein a first subset of the values is reserved for indicating the transport format of the protocol data unit and a second subset of the values, different from the first subset of the values, is reserved for indicating the redundancy version for transmitting the user data, wherein the first subset of the values contains more values than the second subset of the values. *See, e.g.,* 3GPP TS 36.213.

89. Thus, as described above, the LTE Accused Products infringe one or more claims of the '284 patent, including claim 1.

90. The LTE Accused Products are pre-configured and sold by Huawei to infringe the '284 patent. Huawei advertises the ability of the LTE Accused Products to infringe the '284 patent, at least by advertising that the LTE Accused Products are compatible with the LTE Standard. Huawei provides instruction manuals that instruct the users of the LTE Accused Products to use the LTE Accused Products in a manner that infringes the '284 patent.

E. Huawei Makes, Imports, Uses, Sells, and/or Offers for Sale Products and Services that Infringe the '569 Patent.

91. The LTE Accused Products infringe one or more claims of the '569 patent.

92. The '569 patent is essential to the LTE Standard. Thus, for example and as shown below, the LTE Accused Products infringe claim 11 of the '569 patent by virtue of their compatibility with and practice of the LTE Standard, as demonstrated by the 3GPP LTE Standard Specifications.

93. The 3GPP LTE Specifications require that LTE compliant devices include a reception apparatus. *See, e.g.*, 3GPP TS 36.104.

94. The 3GPP LTE Specifications require that LTE compliant devices include a receiving section configured to receive encoded first data which is mapped to symbols in a first part of a domain comprising a time index and a frequency index, and encoded second data which is mapped to groups of symbols in a second part of the domain. *See, e.g.*, 3GPP TS 36.211.

95. The 3GPP LTE Specifications require that LTE compliant devices include a decoding section configured to decode the encoded first data and the encoded second data. *See, e.g.*, 3GPP TS 36.213, 3GPP TS 36.211.

96. The 3GPP LTE Specifications require that LTE compliant devices include a

decoding section configured to decode the encoded first data and the encoded second data, wherein at least a part of the encoded first data is mapped to at least a part of the symbols in the first part of the domain in an increasing order according to the frequency index. *See, e.g.*, 3GPP TS 36.213, 3GPP TS 36.211.

97. The 3GPP LTE Specifications require that LTE compliant devices include a decoding section configured to decode the encoded first data and the encoded second data, wherein at least a part of the encoded second data is mapped to at least a part of the groups of symbols in the second part of the domain and each group of the at least a part of the groups of symbols is aligned in an increasing order according to the time index. *See, e.g.*, 3GPP TS 36.213, 3GPP TS 36.211.

98. The 3GPP LTE Specifications require that LTE compliant devices include a decoding section configured to decode the encoded first data and the encoded second data, wherein at least a part of the encoded first data is mapped to at least a part of the symbols in the first part of the domain in an increasing order according to the frequency index; at least a part of the encoded second data is mapped to at least a part of the groups of symbols in the second part of the domain and each group of the at least a part of the groups of symbols is aligned in an increasing order according to the time index; and each symbol within each of the groups of symbols is aligned along the frequency index. *See, e.g.*, 3GPP TS 36.213, 3GPP TS 36.211.

99. Thus, as described above, the LTE Accused Products infringe one or more claims of the '569 patent, including claim 11.

100. The LTE Accused Products are pre-configured and sold by Huawei to infringe the '569 patent. Huawei advertises the ability of the LTE Accused Products to infringe the '569 patent, at least by advertising that the LTE Accused Products are compatible with the LTE

Standard. Huawei provides instruction manuals that instruct the users of the LTE Accused Products to use the LTE Accused Products in a manner that infringes the '569 patent.

F. Huawei Makes, Imports, Uses, Sells, and/or Offers for Sale Products and Services that Infringe the '833 Patent.

101. The LTE Accused Products infringe one or more claims of the '833 patent.

102. The '833 patent is essential to the LTE Standard. Thus, for example and as shown below, the LTE Accused Products infringe claim 1 of the '833 patent by virtue of their compatibility with and practice of the LTE Standard, as demonstrated by the 3GPP LTE Standard Specifications.

103. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform a method for transmitting uplink signals comprising control signals and data signals in a wireless communication system. *See, e.g.*, 3GPP TS 36.212.

104. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform the step of serially multiplexing first control signals and data signals in a mobile station, wherein the first control signals are placed at a front part of the multiplexed signals and the data signals are placed at a rear part of the multiplexed signals. *See, e.g.*, 3GPP TS 36.212.

105. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform the step of mapping the multiplexed signals to a 2-dimensional resource matrix comprising a plurality of columns and a plurality of rows, wherein the columns and the rows of the 2-dimensional resource matrix correspond to single carrier frequency divisional multiple access (SC-FDMA) symbols and subcarriers for each SC-FDMA symbol, respectively, wherein a number of columns of the 2-dimensional resource matrix corresponds to a number of SC-FDMA symbols within one subframe except specific SC-FDMA symbols used for a reference signal, and wherein the multiplexed signals are mapped from the first column of the first row to the last

column of the first row, the first column of the second row to the last column of the second row, and so on, until all the multiplexed signals are mapped to the 2-dimensional resource matrix. *See, e.g.,* 3GPP TS 36.212, 3GPP TS 36.211.

106. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform the step of mapping ACK/NACK control signals to specific columns of the 2-dimensional resource matrix, wherein the specific columns correspond to SC-FDMA symbols right adjacent to the specific SC-FDMA symbols, wherein the ACK/NACK control signals overwrite some of the multiplexed signals mapped to the 2-dimensional resource matrix from the last row of the specific columns. *See, e.g.,* 3GPP TS 36.212, 3GPP TS 36.211.

107. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform the step of transmitting the signals mapped to the 2-dimensional resource matrix by column by column to a base station. *See, e.g.,* 3GPP TS 36.211.

108. Thus, as described above, the LTE Accused Products infringe one or more claims of the '833 patent, including claim 1.

109. The LTE Accused Products are pre-configured and sold by Huawei to infringe the '833 patent. Huawei advertises the ability of the LTE Accused Products to infringe the '833 patent, at least by advertising that the LTE Accused Products are compatible with the LTE Standard. Huawei provides instruction manuals that instruct the users of the LTE Accused Products to use the LTE Accused Products in a manner that infringes the '833 patent.

G. Huawei Makes, Imports, Uses, Sells, and/or Offers for Sale Products and Services that Infringe the '293 Patent.

110. The LTE Accused Products infringe one or more claims of the '293 patent.

111. The '293 patent is essential to the LTE Standard. Thus, for example and as shown below, the LTE Accused Products infringe claim 1 of the '293 patent by virtue of their

compatibility with and practice of the LTE Standard, as demonstrated by the 3GPP LTE Standard Specifications.

112. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform a method for transmitting scheduling requests from a mobile terminal to a base station. *See, e.g.*, 3GPP TS 36.321.

113. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform the step of transmitting a first scheduling request from the mobile terminal to the base station in response to first data becoming available for transmission from the mobile terminal to the base station. *See, e.g.*, 3GPP TS 36.321.

114. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform the step of, after transmitting the first scheduling request, receiving at the mobile terminal a scheduling grant transmitted from the base station. *See, e.g.*, 3GPP TS 36.321.

115. The 3GPP LTE Specifications require that LTE compliant devices be configured to perform the step of, in response to receiving the scheduling grant, transmitting from the mobile terminal to the base station transmit buffer status information. *See, e.g.*, 3GPP TS 36.321.

116. The 3GPP LTE Specifications require that LTE compliant devices be configured to, while at least some of the first data is waiting to be transmitted to the base station and after transmitting the buffer status information, but prior to transmitting any subsequent scheduling requests to the base station, perform the steps of (1) determining whether a scheduling request triggering event has occurred, and (2) if a triggering event has occurred, then, in response to determining that the triggering event has occurred, at a next opportunity, transmitting a second scheduling requests to the base station. *See, e.g.*, 3GPP TS 36.321.

117. Thus, as described above, the LTE Accused Products infringe one or more claims

of the '293 patent, including claim 1.

118. The LTE Accused Products are pre-configured and sold by Huawei to infringe the '293 patent. Huawei advertises the ability of the LTE Accused Products to infringe the '293 patent, at least by advertising that the LTE Accused Products are compatible with the LTE Standard. Huawei provides instruction manuals that instruct the users of the LTE Accused Products to use the LTE Accused Products in a manner that infringes the '293 patent.

COUNT I: PATENT INFRINGEMENT OF THE '238 PATENT

119. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

120. The '238 patent, originally assigned to Panasonic and subsequently assigned to PanOptis, is not, and has not been declared, a standards-essential patent.

121. Huawei infringes the '238 patent by making, using, selling, offering for sale, and/or importing into the United States products and/or methods covered by one or more claims of the '238 patent. For example, the Nexus 6P, one of the '238 Accused Products, infringes at least claim 1 of the '238 patent. The accused devices that infringe one or more claims of the '238 patent include, but are not limited to, at least the '238 Accused Products.

122. The '238 Accused Products directly infringe one or more claims of the '238 Patent. Huawei makes, uses, sells, offers for sale, and/or imports, in this District and elsewhere in the United States these devices and thus directly infringes the '238 patent.

123. Huawei has knowledge of the '238 patent. Huawei has received actual notice of the '238 Patent at least as early as July 18, 2014, and again as of the date this lawsuit was filed and/or the date(s) the Original Complaint was served upon Huawei and/or a courtesy copy was provided.

124. Huawei indirectly infringes the '238 Patent, as provided in 35 U.S.C. § 271(b), by

inducing infringement by others, such as Huawei's customers and end-users, in this District and elsewhere in the United States. For example, Huawei's customers and end-users directly infringe through their use of the inventions claimed in the '238 patent. Huawei induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the '238 Accused Products, and providing instructions, documentation, and other information to customers and end-users suggesting that they use the '238 Accused Products in an infringing manner, including in-store technical support, online technical support, marketing, product manuals, advertisements, online documentation, developer information, and API documentation. As a result of Huawei's inducement, Huawei's customers and end-users use the '238 Accused Products in the way Huawei intends and directly infringe the '238 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '238 patent and with the intent, or willful blindness, that the induced acts directly infringe the '238 patent.

125. Huawei also indirectly infringes the '238 patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement committed by others, such as customers and end-users, in this District and elsewhere in the United States. Huawei's affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the '238 Accused Products and causing the '238 Accused Products to be manufactured, used, sold, and offered for sale contribute to Huawei's customers' and end-users' use of the '238 Accused Products, such that the '238 patent is directly infringed. The accused components within the '238 Accused Products are material to the invention of the '238 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Huawei to be especially made or especially adapted for use in infringement of the '238 patent.

Huawei has performed and continues to perform these affirmative acts with knowledge of the '238 patent and with intent, or willful blindness, that they cause the direct infringement of the '238 patent.

126. Huawei's infringement of the '238 patent has been and continues to be willful.

127. Huawei's infringement of the '238 patent has damaged and will continue to damage PanOptis.

COUNT II: PATENT INFRINGEMENT OF THE '216 PATENT

128. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

129. Huawei infringes the '216 patent by making, using, selling, offering for sale, and/or importing into the United States products and/or methods covered by one or more claims of the '216 patent. For example, the LTE Accused Products infringe at least claim 1 of the '216 patent. The accused devices that infringe one or more claims of the '216 patent include, but are not limited to, at least the LTE Accused Products.

130. The LTE Accused Products directly infringe one or more claims of the '216 patent. Huawei makes, uses, sells, offers for sale, and/or imports, in this District and elsewhere in the United States these devices and thus directly infringes the '216 patent.

131. Huawei has knowledge of the '216 patent. Huawei has received actual notice of the '216 patent at least as early as July 18, 2014, and again as of the date this lawsuit was filed and/or the date(s) the Original Complaint was served upon Huawei and/or a courtesy copy was provided.

132. Huawei indirectly infringes the '216 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Huawei's customers and end-users, in this District and elsewhere in the United States. For example, Huawei's customers and end-users directly infringe

through their use of the inventions claimed in the '216 patent. Huawei induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the LTE Accused Products, and providing instructions, documentation, and other information to customers and end-users suggesting they use the LTE Accused Products in an infringing manner, including in-store technical support, online technical support, marketing, product manuals, advertisements, online documentation, developer information, and API documentation. As a result of Huawei's inducement, Huawei's customers and end-users use the LTE Accused Products in the way Huawei intends and directly infringe the '216 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '216 patent and with the intent, or willful blindness, that the induced acts directly infringe the '216 patent.

133. Huawei also indirectly infringes the '216 patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement committed by others, such as customers and end-users, in this District and elsewhere in the United States. Huawei's affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the LTE Accused Products and causing the LTE Accused Products to be manufactured, used, sold, and offered for sale contribute to Huawei's customers' and end-users' use of the LTE Accused Products, such that the '216 patent is directly infringed. The accused components within the LTE Accused Products are material to the invention of the '216 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Huawei to be especially made or especially adapted for use in infringement of the '216 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '216 patent and with intent, or willful blindness, that they cause the direct infringement of the '216 patent.

134. Huawei's infringement of the '216 patent has been and continues to be willful.

135. Huawei's infringement of the '216 patent has damaged and will continue to damage PanOptis.

COUNT III: PATENT INFRINGEMENT OF THE '851 PATENT

136. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

137. Huawei infringes the '851 patent by making, using, selling, offering for sale, and/or importing into the United States products and/or methods covered by one or more claims of the '851 patent. For example, the LTE Accused Products infringe at least claim 1 of the '851 patent. The accused devices that infringe one or more claims of the '851 patent include, but are not limited to, at least the LTE Accused Products.

138. The LTE Accused Products directly infringe one or more claims of the '851 patent. Huawei makes, uses, sells, offers for sale, and/or imports, in this District and elsewhere in the United States these devices and thus directly infringes the '851 patent.

139. Huawei has knowledge of the '851 patent. Huawei has received actual notice of the '851 patent at least as early as July 18, 2014, and again as of the date this lawsuit was filed and/or the date(s) the Original Complaint was served upon Huawei and/or a courtesy copy was provided.

140. Huawei indirectly infringes the '851 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Huawei's customers and end-users, in this District and elsewhere in the United States. For example, Huawei's customers and end-users directly infringe through their use of the inventions claimed in the '851 patent. Huawei induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the LTE Accused Products, and providing instructions, documentation, and

other information to customers and end-users suggesting they use the LTE Accused Products in an infringing manner, including in-store technical support, online technical support, marketing, product manuals, advertisements, online documentation, developer information, and API documentation. As a result of Huawei's inducement, Huawei's customers and end-users use the LTE Accused Products in the way Huawei intends and directly infringe the '851 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '851 patent and with the intent, or willful blindness, that the induced acts directly infringe the '851 patent.

141. Huawei also indirectly infringes the '851 patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement committed by others, such as customers and end-users, in this District and elsewhere in the United States. Huawei's affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the LTE Accused Products and causing the LTE Accused Products to be manufactured, used, sold, and offered for sale contribute to Huawei's customers' and end-users' use of the LTE Accused Products, such that the '851 patent is directly infringed. The accused components within the LTE Accused Products are material to the invention of the '851 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Huawei to be especially made or especially adapted for use in infringement of the '851 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '851 patent and with intent, or willful blindness, that they cause the direct infringement of the '851 patent.

142. Huawei's infringement of the '851 patent has been and continues to be willful.

143. Huawei's infringement of the '851 patent has damaged and will continue to damage PanOptis.

COUNT IV: PATENT INFRINGEMENT OF THE '284 PATENT

144. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

145. Huawei infringes the '284 patent by making, using, selling, offering for sale, and/or importing into the United States products and/or methods covered by one or more claims of the '284 patent. For example, the LTE Accused Products infringe at least claim 1 of the '284 patent. The accused devices that infringe one or more claims of the '284 patent include, but are not limited to, at least the LTE Accused Products.

146. The LTE Accused Products directly infringe one or more claims of the '284 patent. Huawei makes, uses, sells, offers for sale, and/or imports, in this District and elsewhere in the United States these devices and thus directly infringes the '284 patent.

147. Huawei has knowledge of the '284 patent. Huawei has received actual notice of the '284 patent at least as early as July 18, 2014, and again as of the date this lawsuit was filed and/or the date(s) the Original Complaint was served upon Huawei and/or a courtesy copy was provided.

148. Huawei indirectly infringes the '284 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Huawei's customers and end-users, in this District and elsewhere in the United States. For example, Huawei's customers and end-users directly infringe through their use of the inventions claimed in the '284 patent. Huawei induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the LTE Accused Products, and providing instructions, documentation, and other information to customers and end-users suggesting they use the LTE Accused Products in an infringing manner, including in-store technical support, online technical support, marketing, product manuals, advertisements, online documentation, developer information, and API

documentation. As a result of Huawei's inducement, Huawei's customers and end-users use the LTE Accused Products in the way Huawei intends and directly infringe the '284 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '284 patent and with the intent, or willful blindness, that the induced acts directly infringe the '284 patent.

149. Huawei also indirectly infringes the '284 patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement committed by others, such as customers and end-users, in this District and elsewhere in the United States. Huawei's affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the LTE Accused Products and causing the LTE Accused Products to be manufactured, used, sold, and offered for sale contribute to Huawei's customers' and end-users' use of the LTE Accused Products, such that the '284 patent is directly infringed. The accused components within the LTE Accused Products are material to the invention of the '284 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Huawei to be especially made or especially adapted for use in infringement of the '284 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '284 patent and with intent, or willful blindness, that they cause the direct infringement of the '284 patent.

150. Huawei's infringement of the '284 patent has been and continues to be willful.

151. Huawei's infringement of the '284 patent has damaged and will continue to damage PanOptis.

COUNT V: PATENT INFRINGEMENT OF THE '569 PATENT

152. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

153. Huawei infringes the '569 patent by making, using, selling, offering for sale,

and/or importing into the United States products and/or methods covered by one or more claims of the '569 patent. For example, the LTE Accused Products infringe at least claim 11 of the '569 patent. The accused devices that infringe one or more claims of the '569 patent include, but are not limited to, at least the LTE Accused Products.

154. The LTE Accused Products directly infringe one or more claims of the '569 patent. Huawei makes, uses, sells, offers for sale, and/or imports, in this District and elsewhere in the United States these devices and thus directly infringes the '569 patent.

155. Huawei has knowledge of the '569 patent. Huawei has received actual notice of the '569 patent at least as early as July 18, 2014, and again as of the date this lawsuit was filed and/or the date(s) the Original Complaint was served upon Huawei and/or a courtesy copy was provided.

156. Huawei indirectly infringes the '569 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Huawei's customers and end-users, in this District and elsewhere in the United States. For example, Huawei's customers and end-users directly infringe through their use of the inventions claimed in the '569 patent. Huawei induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the LTE Accused Products, and providing instructions, documentation, and other information to customers and end-users suggesting they use the LTE Accused Products in an infringing manner, including in-store technical support, online technical support, marketing, product manuals, advertisements, online documentation, developer information, and API documentation. As a result of Huawei's inducement, Huawei's customers and end-users use the LTE Accused Products in the way Huawei intends and directly infringe the '569 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '569 patent

and with the intent, or willful blindness, that the induced acts directly infringe the '569 patent.

157. Huawei also indirectly infringes the '569 patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement committed by others, such as customers and end-users, in this District and elsewhere in the United States. Huawei's affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the LTE Accused Products and causing the LTE Accused Products to be manufactured, used, sold, and offered for sale contribute to Huawei's customers' and end-users' use of the LTE Accused Products, such that the '569 patent is directly infringed. The accused components within the LTE Accused Products are material to the invention of the '569 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Huawei to be especially made or especially adapted for use in infringement of the '569 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '569 patent and with intent, or willful blindness, that they cause the direct infringement of the '569 patent.

158. Huawei's infringement of the '569 patent has been and continues to be willful.

159. Huawei's infringement of the '569 patent has damaged and will continue to damage PanOptis.

COUNT VI: PATENT INFRINGEMENT OF THE '833 PATENT

160. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

161. Huawei infringes the '833 patent by making, using, selling, offering for sale, and/or importing into the United States products and/or methods covered by one or more claims of the '833 patent. For example, the LTE Accused Products infringe at least claim 1 of the '833 patent. The accused devices that infringe one or more claims of the '833 patent include, but are

not limited to, at least the LTE Accused Products.

162. The LTE Accused Products directly infringe one or more claims of the '833 patent. Huawei makes, uses, sells, offers for sale, and/or imports, in this District and elsewhere in the United States these devices and thus directly infringes the '833 patent.

163. Huawei has knowledge of the '833 patent. Huawei has received actual notice of the '833 patent at least as early as July 18, 2014, and again as of the date this lawsuit was filed and/or the date(s) the Second Amended Complaint was served upon Huawei and/or a courtesy copy was provided.

164. Huawei indirectly infringes the '833 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Huawei's customers and end-users, in this District and elsewhere in the United States. For example, Huawei's customers and end-users directly infringe through their use of the inventions claimed in the '833 patent. Huawei induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the LTE Accused Products, and providing instructions, documentation, and other information to customers and end-users suggesting they use the LTE Accused Products in an infringing manner, including in-store technical support, online technical support, marketing, product manuals, advertisements, online documentation, developer information, and API documentation. As a result of Huawei's inducement, Huawei's customers and end-users use the LTE Accused Products in the way Huawei intends and directly infringe the '833 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '833 patent and with the intent, or willful blindness, that the induced acts directly infringe the '833 patent.

165. Huawei also indirectly infringes the '833 patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement committed by others, such as

customers and end-users, in this District and elsewhere in the United States. Huawei's affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the LTE Accused Products and causing the LTE Accused Products to be manufactured, used, sold, and offered for sale contribute to Huawei's customers' and end-users' use of the LTE Accused Products, such that the '833 patent is directly infringed. The accused components within the LTE Accused Products are material to the invention of the '833 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Huawei to be especially made or especially adapted for use in infringement of the '833 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '833 patent and with intent, or willful blindness, that they cause the direct infringement of the '833 patent.

166. Huawei's infringement of the '833 patent has been and continues to be willful.

167. Huawei's infringement of the '833 patent has damaged and will continue to damage PanOptis.

COUNT VII: PATENT INFRINGEMENT OF THE '293 PATENT

168. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

169. Huawei infringes the '293 patent by making, using, selling, offering for sale, and/or importing into the United States products and/or methods covered by one or more claims of the '293 patent. For example, the LTE Accused Products infringe at least claim 1 of the '293 patent. The accused devices that infringe one or more claims of the '293 patent include, but are not limited to, at least the LTE Accused Products.

170. The LTE Accused Products directly infringe one or more claims of the '293 patent. Huawei makes, uses, sells, offers for sale, and/or imports, in this District and elsewhere in

the United States these devices and thus directly infringes the '293 patent.

171. Huawei has knowledge of the '293 patent. Huawei has received actual notice of the '293 patent at least as early as July 18, 2014, and again as of the date this lawsuit was filed and/or the date(s) the Second Amended Complaint was served upon Huawei and/or a courtesy copy was provided.

172. Huawei indirectly infringes the '293 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Huawei's customers and end-users, in this District and elsewhere in the United States. For example, Huawei's customers and end-users directly infringe through their use of the inventions claimed in the '293 patent. Huawei induces this direct infringement through its affirmative acts of manufacturing, selling, distributing, and/or otherwise making available the LTE Accused Products, and providing instructions, documentation, and other information to customers and end-users suggesting they use the LTE Accused Products in an infringing manner, including in-store technical support, online technical support, marketing, product manuals, advertisements, online documentation, developer information, and API documentation. As a result of Huawei's inducement, Huawei's customers and end-users use the LTE Accused Products in the way Huawei intends and directly infringe the '293 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '293 patent and with the intent, or willful blindness, that the induced acts directly infringe the '293 patent.

173. Huawei also indirectly infringes the '293 patent, as provided by 35 U.S.C. § 271(c), by contributing to direct infringement committed by others, such as customers and end-users, in this District and elsewhere in the United States. Huawei's affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the LTE Accused Products and causing the LTE Accused Products to be manufactured, used,

sold, and offered for sale contribute to Huawei's customers' and end-users' use of the LTE Accused Products, such that the '293 patent is directly infringed. The accused components within the LTE Accused Products are material to the invention of the '293 patent, are not staple articles or commodities of commerce, have no substantial non-infringing uses, and are known by Huawei to be especially made or especially adapted for use in infringement of the '293 patent. Huawei has performed and continues to perform these affirmative acts with knowledge of the '293 patent and with intent, or willful blindness, that they cause the direct infringement of the '293 patent.

174. Huawei's infringement of the '293 patent has been and continues to be willful.

175. Huawei's infringement of the '293 patent has damaged and will continue to damage PanOptis.

COUNT VIII: WILLFUL INFRINGEMENT

176. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

177. Huawei has willfully infringed and/or does willfully infringe each of the Patents-in-Suit.

178. Huawei received actual notice of each of the Patents-in-Suit at least as early as July 18, 2014, by way of correspondence that PanOptis sent to Huawei.

179. After receiving such actual notice of each of the Patents-in-Suit, Huawei proceeded to make, use, test, sell, and offer to sell in this District and elsewhere in the United States, and import into this District and elsewhere in the United States, the Huawei Accused Products.

180. On information and belief, Huawei engaged in such activities despite an objectively high likelihood that its actions constituted infringement of valid patents.

Furthermore, Huawei knew or should have known that its actions constituted and/or would cause the direct infringement of each of the Patents-in-Suit.

COUNT IX: DECLARATORY JUDGMENT

181. PanOptis incorporates by reference the preceding paragraphs as though fully set forth herein.

182. PanOptis owns patents essential to various standards—including, for example, LTE—and PPM possesses the full rights to license these patents to Huawei. PanOptis, as possessing the full rights in patents that are standards essential and remain standards essential, is obligated to offer Huawei a license to its standards essential patents on FRAND terms.

183. Huawei makes, has made, sells, leases, disposes of, repairs, uses, and operates products and uses methods that practice various standards—including, for example, LTE—and is, therefore, required to obtain a license under the PanOptis standards essential patents.

184. There is a case or controversy, of sufficient immediacy and reality to warrant declaratory judgment as to whether PanOptis has complied with its commitments to offer a license to its essential patents on FRAND terms. PanOptis has in good faith presented Huawei with FRAND terms for a worldwide license under PanOptis's entire portfolio of standards essential patents. Huawei, however, has rebuffed and continues to rebuff PanOptis's good faith efforts to negotiate a license with Huawei.

185. PanOptis is entitled to a declaratory judgment that it has complied with its obligations arising from declaring its patents essential to various standards, and any applicable laws, during their negotiations with Huawei concerning a worldwide license under the PanOptis standards essential patents.

DAMAGES

186. Under the law, PanOptis is entitled to compensation for Huawei's infringement as

set forth herein. However, the full compensation due cannot be ascertained except through discovery and special accounting. To the fullest extent permitted by law, PanOptis seeks recovery of at least reasonable royalties. PanOptis further seeks any other damages to which PanOptis is entitled under law or in equity.

187. Pursuant to 35 U.S.C. § 287(a), PanOptis is entitled to pre-suit damages from at least the date that Huawei was given notice of infringement of the Patents-in-Suit starting on July 18, 2014.

ATTORNEYS' FEES

188. PanOptis is entitled to recover reasonable attorneys' fees under applicable law, including 35 U.S.C. § 285 given the exceptional nature of this case.

DEMAND FOR JURY TRIAL

189. PanOptis hereby demands a trial by jury for all claims so triable.

PRAYER FOR RELIEF

WHEREFORE, PanOptis respectfully requests that this Court enter judgment in its favor as follows:

- A. that Huawei infringes the Patents-in-Suit;
- B. that Huawei's infringement of the Patents-in-Suit was willful, and that Huawei's continued infringement of these patents is willful;
- C. awarding PanOptis damages in an amount adequate to compensate PanOptis for Huawei's infringement of the Patents-in-Suit, but in no event less than a reasonable royalty under 35 U.S.C. § 284, including supplemental damages for any continuing post-verdict infringement up until entry of the final judgment;
- D. awarding enhanced damages pursuant to 35 U.S.C. § 284;
- E. awarding PanOptis pre-judgment and post-judgment interest to the full extent

allowed under the law, as well as its costs;

- F. awarding a compulsory future royalty payable on each infringing product sold by Huawei following trial or that is not captured in the damages awarded to PanOptis;
- G. entering an order finding that this is an exceptional case and awarding PanOptis its reasonable attorneys' fees pursuant to 35 U.S.C. § 285;
- H. entering a declaratory judgment that PanOptis has complied with its obligations arising from its licensing declarations to ETSI, ETSI's IPR Policy, and any applicable laws during its negotiations with Huawei concerning a worldwide license under the PanOptis standards essential patents;
- I. ordering an accounting of damages;
- J. awarding PanOptis its costs of suit; and
- K. awarding such other relief as the Court may deem appropriate and just under the circumstances.

Dated: April 14, 2017.

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